REPORT AND RECOMMENDATIONS
ON THE
NOVA SCOTIA POWER CORPORATION
POINT ACONI GENERATING STATION

submitted to

MINISTER OF THE ENVIRONMENT

prepared by

ENVIRONMENTAL ASSESSMENT ADMINISTRATOR

February 23, 1990

90-04599/

Nova Scotia

Department of the Environment

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Our file no

February 23, 1990

Honourable John G. Leefe
Minister
Department of the Environment
Province of Nova Scotia
Halifax, Nova Scotia

Dear Mr. Leefe:

I am pleased to submit for your consideration my report and recommendations following a government agency review of the proposed Nova Scotia Power Corporation Point Aconi Generating Station.

It is concluded, subject to a number of stipulations, that the project can be constructed and operated without unacceptable environmental impacts.

If necessary, I will be pleased to provide clarification of any aspect of this report at your request.

Respectfully yours,

W. A. Coulter, P. Eng.
Environmental Assessment Administrator

WAC/jb

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1 REVIEW PROCESS

The Nova Scotia Power Corporation registered its proposed 150 MW coal-fired, circulating fluidized bed generating station as a Class II undertaking under the Environmental Assessment Act on July 28, 1989. The Corporation subsequently increased the proposed generating capacity to 165 MW in a letter to the Environmental Assessment Administrator dated November 2, 1989.

In a notice published in the Chronicle Herald and the Cape Breton Post on August 4, 1989 the Minister of the Environment invited interested Nova Scotians to review and provide written comments on the Corporation's Terms of Reference for environmental studies. As a result of the comments received, the Corporation was advised, on October 2, 1989, of the requirement for additional information and instructed to submit a draft Table of Contents for the Environmental Assessment Report in order to demonstrate that it was being prepared in an acceptable manner.

Following approval of the draft Table of Contents, a draft of the Environmental Assessment Report was submitted on December 1, 1989. Review of the draft Report revealed deficiencies and omissions which were brought to the attention of the Corporation. A letter addressing the deficiencies and omissions was submitted to the Environmental Assessment Administrator on December 5, 1989 and the Minister was able to accept the Report on that same date. The Report was released for public review and comment on December 9, 1989 and shortly thereafter it was referred to the Environmental Control Council for public consultation as required for all Class II undertakings.

A committee of the Environmental Control Council held public meetings on January 17, 1990 at the Point Aconi Community Hall. There were eighteen oral presentations with numerous questions directed to the presenters and to the Power Corporation.

The Environmental Assessment Administrator coordinated a technical review by federal and provincial government agencies. Reviewing agencies included Environment Canada, Fisheries and Oceans Canada, the Nova Scotia Museum Complex, the Nova Scotia Department of Health and Fitness and the Field Services and

Environmental Assessment Divisions of the Nova Scotia Department of the Environment. Comments were also received from the New Democratic Party and Edmond's Landscape Services.

Copies of all submitted government agency comments were provided to the Power Corporation prior to meetings and discussions with the agencies. The Corporation agreed to respond to each point raised during the technical review process. Where required, responses were provided prior to the preparation of this report, with other responses to follow throughout the approval and construction phases of the project.

2 PROJECT DESCRIPTION

2.1 PROJECT RATIONALE

Nova Scotia Power Corporation's planning process has identified that by 1993/1994 there will be a requirement for new generating capacity. To meet the projected demand, and to meet the province's established objectives for sulphur dioxide emissions, a 165 MW generating station employing circulating fluidized bed combustion technology was identified as the most appropriate solution.

2.2 LOCATION

The proposed generating station will be located near Point Aconi, on Boularderie Island in Cape Breton. The approximately 35 hectare site fronts on the Atlantic Ocean.

The surrounding area is primarily rural, with a fairly stable or slightly decreasing population. The area is characterized by strip development of housing and small scale farming along the road network. The closest community is Point Aconi, with the community centre being nearly five kilometres to the east, and the nearest house about two kilometres away. The nearest larger communities are Sydney Mines (12 km), North Sydney (15 km), and the City of Sydney (25 km), all of which are accessed by Highway 105 from Bras d'Or.

The main employment opportunities in the area are the Prince Coal Mine, the ground fish and lobster fisheries, and agriculture.

2.3 PROJECT OVERVIEW

The proposed project involves construction of a 165 MW electrical power generating station, comprised of a circulating fluidized bed combustor, turbine generators, coal and limestone storage and handling facilities, an ash management area, a well field to supply fresh water, and a circulating water system. Feasibility and environmental studies for the project have been carried out for the proposed 165 MW station, with allowances for future expansion to three units with a total power generating capacity of 450 MW.

2.3.1 CIRCULATING FLUIDIZED BED PROCESS

The proposed station will generate electric power by a relatively new process that involves burning a mixture of crushed coal and limestone suspended in a stream of circulating combustion air. The limestone acts as a sorbent, and will capture 90 percent of the sulphur dioxide produced during combustion, producing solids which are removed with the ash. The staged introduction of combustion air and the lower temperature of the circulating fluidized bed boiler act to significantly reduce the production of nitrogen oxides.

2.3.2 COAL AND LIMESTONE MANAGEMENT

The proposed 165 MW Unit No. 1 station will receive approximately 92 delivery trucks (minimum 30 tonne capacity) per eight hour day, five days a week. The primary fuel will be high sulphur coal from the nearby Prince Mine. Burning this high sulphur coal will result in coal fuel blends with lower average sulphur content for use in other NSPC generating facilities. Coal storage areas are to be located southeast of the powerhouse, and consist of a 40,000 tonne active pile and a 120,000 tonne emergency supply stockpile.

Limestone will be delivered to the site from local sources by an estimated 44 delivery trucks (minimum 30 tonne capacity) per eight hour day, five days a week. The limestone will be stored in a 50,000 tonne stockpile adjacent to the coal piles.

All surface water runoff from the coal and limestone storage areas will be collected in a storage pond and directed to a waste water treatment facility. Groundwater in the area will be monitored and dust collection

and monitoring facilities will be in place at all coal and limestone transfer points.

2.3.3 SOLID WASTE MANAGEMENT

Combustion of the coal-limestone mixture will produce 205,000 tonnes of ash annually. The ash will be stored at a 184 hectare site located directly across the Mill Pond Road from the generating station. The ash management site will be developed in a staged manner involving the disposal of the ash in separate cells. The ash will be conditioned by mixing it with water prior to it being placed and compacted in a cell. The first cell will have a natural or a man-made liner and will be used to determine the feasibility of using the conditioned and compacted ash as a self-liner for subsequent cells. When the active cell reaches its design height it will be capped with relatively impervious layers of soil and revegetated.

2.3.4 FRESH WATER SUPPLY

The maximum estimated fresh water demand for a single unit is 910 litres per minute, and 2270 litres per minute for a three unit station. Approximately 40 percent of the demand is for domestic/common use, 50 percent for boiler make-up water and the remainder for ash conditioning purposes.

The proposed freshwater source is a well field located about five kilometres from the station, tapping groundwater of the Lower Morien aquifer. Water will be pumped to the station in a single pipeline from the production wells along the shortest route to the proposed transmission line right of way and along the right of way to the station.

2.3.5 CIRCULATING WATER SYSTEM

Seawater will be drawn from a point about one kilometre offshore into a sub-seabed tunnel, and pumped to the station where it will be used to condense exhaust from the turbine, and provide auxiliary cooling for the station systems. The seawater will be returned to the ocean between two rubble and armour stone groins proposed for a site just north of the station.

3 DISCUSSION OF ISSUES

The issues arising from the review process were varied, and ranged from the circulating fluidized bed technology through the various components of the proposed generating station to the assessment process itself. This section of the report presents the major issues identified by the reviewers.

3.1 TECHNOLOGY

3.1.1 FUEL OPTIONS

The Report deals with "demand side options", including conservation, and "supply side options" in a cursory fashion. In consideration of the spirit of sustainable development, a more detailed discussion of options would have been useful. Concern has been expressed that the Power Corporation has focused on short term "financial bottom line" considerations rather than looking ahead ... to the construction of a sustainable society combining economic health and good environmental stewardship".

3.1.2 CARBON DIOXIDE EMISSIONS

The proposed combustion technology, circulating fluidized bed, can achieve significant reductions in sulphur dioxide and nitrogen oxide emissions, however it results in increased carbon dioxide emissions. Reviewers acknowledge that standards for carbon dioxide emissions have not been developed to date. It has been pointed out that it is too early to suggest emission controls, due to uncertainties regarding relative contributions of individual sources, economic impacts, and environmental benefits to be obtained by controlling carbon dioxide.

Despite the uncertainties, the fact remains that carbon dioxide is suspected to be a major contributor to global warming, and the scientific debate will continue until the issue is resolved.

3.2 AIR QUALITY

3.2.1 FUGITIVE DUST CONTROL

The fuel and sorbent requirements of the proposed generating station will necessitate the stockpiling of these materials. Coal will be delivered to the site by truck and stored in a "dead" emergency stockpile of 120,000 tonnes (low sulphur coal) plus a 40,000 tonne active stockpile. The limestone sorbent will be delivered to the site in covered trucks from a local quarry and stored in an active stockpile of 50,000 tonnes.

Experience at the Cape Breton Development Corporation's Victoria Junction coal preparation plant has shown that both active and inactive coal stockpiles can cause unacceptable fugitive dust problems unless preventative measures are applied. There is a similar concern related to the storage and handling of the sorbent material.

3.2.2 SULPHUR DIOXIDE CAPTURE RATE

The Power Corporation contends that the proposed circulating fluidized bed technology will reduce sulphur dioxide emissions by 90 percent (compared with conventional systems). Experience with the circulating fluidized bed plant at Chatham, New Brunswick, however, showed that the 90 percent capture efficiency was difficult to achieve.

In discussions with Power Corporation officials, it was stated that tests of Point Aconi coal and local limestone at the Chatham facility, reached and exceeded the 90 percent sulphur dioxide capture rate with ease.

3.2.3 PREDICTED GROUND CONCENTRATION LEVELS OF SULPHUR DIOXIDE, NITROGEN OXIDES AND TOTAL SUSPENDED PARTICULATES

The Report presents the results of computer predictions for sulphur dioxide concentrations for the Cape Dauphin Mountain (Kelly's Mountain) area. The results predict that this area will receive ground level concentrations of sulphur dioxide in excess of the maximum desirable range for 0.1 to 0.2 percent of the time (approximately 9 to 18 hours per year). The area which may be impacted has high potential for commercial

groundwater extraction, and is currently under examination by private interests.

The report goes on to state that model predictions for ground level concentrations of nitrogen oxides and for particulate matter did not exceed the stringent requirements specified in the National Ambient Air Quality Objectives. This statement is not supported by presentation of model results. It is noted that the referenced objectives do not include limits for particulate matter.

3.2.4 SULPHATE DEPOSITION

The Report does not discuss sulphate deposition and the potential to negatively impact on the surrounding environment. Special concerns relate to the Bird Islands and the farmlands in the potential impact area.

3.3 CIRCULATING WATER SYSTEM

3.3.1 HERRING LARVAE ENTRAINMENT

Biological studies in the waters near the proposed circulating water intake revealed the presence of herring larvae. During the winter months these larvae reside in deeper water and could therefore be drawn into the plant circulating system. There is insufficient information to allow reviewers to determine whether this will be a significant problem.

3.3.2 CAPELIN SPAWNING

It has been reported that capelin spawn on the beach at the proposed location for the circulating water discharge. The potential for impact on the capelin has not been adequately studied.

3.3.3 CONSTRUCTION - USE OF EXPLOSIVES

The construction of the circulating water intake tunnel will eliminate the fish habitat destruction associated with trenching. If it is necessary to use explosives in the construction process, then the possibility of damage to fish and fish habitat will exist. This concern also extends to the circulating water discharge groins, if explosives are required for construction.

3.3.4 CHLORINATION

The proponent has proposed the use of chlorine as a biofouling agent in the circulating water system, primarily to prevent the accumulation of mussels on the interior walls of the intake tunnel, inside pumping equipment and in the condensers. Concern has been expressed by the reviewers that chlorine biofouling may produce toxic by-products, a situation similar to the production of chlorine products from bleaching in pulp and paper manufacturing. There is further concern that any fish entrained in the circulating water tunnel would be killed by the use of chlorine.

3.3.5 COMMERCIAL FISHERY

Nova Scotia Power acknowledges the importance of the lobster fishery in the immediate vicinity of the project. The construction of the circulating water intake system and, more particularly, the circulating water discharge structures could result in a loss of lobster habitat or, if construction coincides with the lobster season, a reduction in catch for the local fishermen. The effects on lobsters of increased temperatures and chlorinated discharges during operation are not known.

3.3.6 COMPENSATION

If construction and operation of the Point Aconi Generating Station, with emphasis on the circulating water system, results in significant loss of habitat or loss of catch on either a permanet or temporary basis, the fishermen of the area will suffer financial hardship.

3.3.7 ICE CLIMATE AND CONDITIONS

One expert reviewer examined the sections of the Report dealing with Ice Climate and has expressed concern regarding the nature and source(s) of data, and the interpretation of that data in some instances. The concern is directly related to design factors associated with the circulating water system and the protection of the system from ice induced damage.

3.3.8 WAVE ANALYSIS

Reviewers have raised questions about the procedures used for wave analysis and are now reviewing the original studies used in the preparation of this section of the Report. Concerns are primarily related to the safety of the offshore structures associated with the circulating water system.

3.3.9 THERMAL PLUME ANALYSIS

Concerns regarding impacts of heated water being discharged to the marine environment have been raised. Particular concerns are related to impacts on the movement of fish and lobster in the area of discharge. Since capelin and salmon spawn in the immediate area, the question of avoidance due to increased water temperatures has been raised. The same question has been asked in relation to lobster and other area species.

3.4 FRESH WATER SUPPLY

3.4.1 DRAWNDOWN OF AQUIFER

The Power Corporation has proposed the development of a well field to provide fresh water to the generating station. The first 165 MW unit will require an estimated maximum of 910 litres per minute with maximum estimates for a three unit station at 2270 litres per minute. The Report states that initial tests indicate that "... sufficient groundwater will be available to supply the station, with minimum effects on existing domestic wells". This conclusion is derived from a 16 day pump test at a withdrawal rate between 2200 and 2300 litres per minute. How valid is the conclusion for a full year and for occasional dry seasons which may not occur every year? Similarly, the effect on surface water resources in the area is stated to be minimal with expected loss of base flow to be less than 3 percent of mean annual surface discharge. In dry periods that 3 percent may represent the base flow in the local streams.

3.4.2 BASELINE DATA - DOMESTIC WATER SUPPLIES

The Report does not present data to indicate that baseline conditions have been determined for existing domestic water supplies. This data is considered vital if the Power Corporation is to determine the effect of the well field on existing domestic wells.

3.4.3 CONTINGENCY PLANS

The Report fails to discuss the action it will take should local water supplies be interrupted as a result of high volume pumping associated with the generating station.

3.4.4 WATER SUPPLY PIPELINE CORRIDOR

The well field is located approximately 5 kilometres from the plant site and will require a pipeline corridor to connect the wells to the plant. The Report does not include an environmental analysis of the proposed pipeline route.

3.5 ASH DISPOSAL

3.5.1 LEACHATE CONTAINMENT

Concerns have been expressed about the effectiveness of using a compacted layer of the conditioned ash as a basal layer (self liner) for the ash containment cell to retard leachate percolation. Any water percolating through the ash and liner could contain toxic compounds which would enter the local groundwater system.

3.5.2 FACILITY DEVELOPMENT PROCESS

The proposed development process for the ash disposal site is not clearly stated in the Report. The concept of using the first cell as a laboratory to determine whether the ash can successfully be used as a self liner is clear, however, the implementation procedure and the rate of development are not well presented.

3.5.3 RECLAMATION PLAN

The Report does not indicate that the proponent has given any thought to reclamation of the ash management site. The proposal to cover each cell with native till after the design elevation has been reached does not consider possible options for reuse of the 184 hectare site following abandonment.

3.6 LIQUID WASTES

3.6.1 RELIABILITY OF SEWAGE TREATMENT PLANT

The proposed mechanical sanitary sewage treatment system for the plant has been criticized as being particularly prone to mechanical breakdown and subject to hydraulic overloading during peak times such as coffee breaks and at lunch time. The result is unacceptable quality effluent discharge at peak times and frequent system downtime.

3.6.2 PROCESS WASTE TREATMENT

The Report states that process wastes will be treated in a batch operated treatment system similar to those used at the Trenton and Point Tupper generating stations. The proponent failed to include data to demonstrate that the treatment plants at these stations are meeting the limits quoted in the Report. It is also of some concern that the currently operating treatment plants are not handling runoff or leachate from ash generated by a circulating fluidized bed combustion system.

3.7 BEACH ACCESS

3.7.1 RECREATIONAL BEACHES

There have been concerns expressed regarding continued access to local beaches by area residents. It is understood that recreational beaches exist on either end of the project site.

3.7.2 BEACH ADJACENT TO OUTFALL

The beach in the immediate vicinity of the circulating water discharge is used by fishermen to recover lost lobster gear. Concern has been expressed that this access and thus some lobster gear will be lost.

3.8 TRANSPORTATION

3.8.1 MILL POND ROAD

In order to minimize the possibility of traffic mishaps, the Department of Transportation and Communications has indicated that Mill Pond Road will be terminated from the new entrance to the plant site (the extension of Highway 162) east to the Morrison Pond area. This road is used by local residents to travel to the beaches in the area and to communities such as Big Bras d'Or to the west of the plant site.

3.9 BIRD POPULATIONS

3.9.1 IMPACTS ON BIRDS

The Bird Islands have been identified by the International Biological Programme as an important ecological site and currently has ecological reserve status. The Report mentions the significance of the islands but no work has been done to predict the potential impact of the generating station on the bird populations. Given the uncertain degree of disturbance on the food web and the unknown effects of stack emissions predictions may be difficult to make at this time.

3.10 ARCHAEOLOGICAL/PALEONTOLOGICAL RESOURCES

Although there is no evidence to believe that archaeological or heritage resources exist on the site, the Report indicates that the Power Corporation is committed to instituting an investigative evaluation if any archaeological or paleontological artifacts are uncovered during construction.

4 CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSION

Subject to the adoption and implementation of the recommendations presented in this Report, it is concluded that the first 165 MW unit of the proposed Point Aconi Generating Station can be constructed and operated without unacceptable environmental impacts.

4.2 RECOMMENDATIONS

All of the following recommendations, apply directly to the Nova Scotia Power Corporation. Priorities have not been assigned to the recommendations which are presented under major subject headings. References to the various issues discussed in Chapter 3 of this Report are included in parentheses at the end of each recommendation.

4.2.1 POLICY

RECOMMENDATION 1

It is recommended that the Nova Scotia Power Corporation continue to closely monitor the development of local, national and international standards for carbon dioxide emissions. In anticipation of the introduction of emission standards and possibly a requirement to reduce existing atmospheric loadings of carbon dioxide, the Power Corporation should immediately initiate work on the development of policies and strategies which would allow existing generating stations to achieve acceptable levels in a timely manner and also guarantee that new stations would be designed using the best available technology, **(3.1.2)**

4.2.2 WRITTEN COMMITMENTS

RECOMMENDATION 2

It is recommended that the Power Corporation provide the following written commitments:

A. The Point Aconi plant will be operated in a manner which will ensure that either a minimum of 90 percent of the uncontrolled emission is captured before release to the atmosphere, or the final emission will not exceed 258 nanograms per Joule (0.6 pounds per million BTU); **(3.2.2)**

B. Residents and visitors to the area will be allowed uncontrolled access to the recreational beaches in the vicinity of the generating station with the exception of the beach immediately adjacent to the circulating water discharge where there are public safety concerns. Local fishermen will be permitted to access the restricted beach to recover lost gear or for other purposes related to their livelihood, in accordance with pre-arranged security procedures. **(3.7.1), (3.7.2)**

4.2.3 FURTHER STUDY

RECOMMENDATION 3

It is recommended that the Power Corporation undertake the following studies:

A. Prior to any consideration of additional power generating units at Point Aconi the Corporation should conduct and submit a full and detailed analysis of both supply-side and demand-side options to coal fired power generation; **(3.1.1)**

B. Studies to determine (i) the significance of herring larvae entrainment in the circulating water system and (ii) the potential impact of construction and operation of the circulating water discharge on capelin spawning should be conducted and made available to the appropriate resource and regulatory agencies prior to construction of the circulating water system; **(3.3.1), (3.3.2)**

C. Prior to development and operation of the fresh water supply well field the Corporation should (i) examine and comment on the validity of the 16 day pump test results being used to predict the long term potential impact on local domestic and other wells in both the upper and lower Morien aquifers, and (ii) conduct a survey of all existing water wells within a 3 kilometre radius of the proposed well field. The survey should document

the type and condition of each well, the water quality in each and, where possible, water levels. This survey should be updated as required to ensure that natural seasonal variations are documented. **(3.4.1), (3.4.2)**

D. Prior to requesting approval for the construction of the pipeline corridor between the well field and the plant the Power Corporation should conduct and submit to the Nova Scotia Department of the Environment, an environmental sensitivity analysis of the proposed route. **(3.4.4)**

E. Since the Corporation is proposing to construct a process waste treatment system similar to the batch operated treatment systems at the Trenton and Point Tupper generating stations, it should submit to the Nova Scotia Department of the Environment data to demonstrate that these systems are meeting the Effluent Quality Objectives for Discharged Liquids as presented in Table 6.1 of the Environmental Assessment Report. The Corporation should also examine the expected differences in quality of untreated waste water due to runoff from the ash management facility and the ability of the proposed system to produce final effluents of acceptable quality. **(3.6.2)**

4.2.4 CONSULTATION WITH REGULATORY AGENCIES

RECOMMENDATION 4

A. If it is necessary for explosives to be used during the construction of the circulating water system the Corporation should have prior consultation with the appropriate regulatory agency to ensure that the requirements of any applicable regulations or guidelines are incorporated in the construction plans. **(3.3.3)**

B. Prior to finalizing design of the offshore structures associated with the circulating water system the Corporation should consult with the Atmospheric Environment Services reviewers who raised concerns on the accuracy of the ice climate and wave analyses reported in the Environmental Assessment Report. **(3.3.7), (3.3.8)**

4.2.5 COMMUNITY CONSULTATION

RECOMMENDATION 5

The proponent should consult with the local community to incorporate its comments and suggestions in the development of (i) rehabilitation plans for the ash management facility, (ii) new access routes to recreational beaches, and (iii) security requirements to allow fishermen access to the restricted beach near the circulating water system discharge. (3.5.3), (3.7.1), (3.7.2)

4.2.6 COMPENSATION PLANS

RECOMMENDATION 6

It is recommended that the Power Corporation develop, in consultation with local farmers and fishermen, compensation plans to be implemented if it is demonstrated that sulphate deposition results is a decrease in land productivity and/or the construction and operation of the circulating water systems causes financial hardship as a result of loss of habitat, avoidance or other impacts on the fishery. (3.2.4), (3.3.6)

4.2.7 COMPLIANCE MONITORING

RECOMMENDATION 7

It is recommended that (i) the station's instrumentation package include the ability to monitor carbon dioxide emissions, and (ii) routine monitoring include fugitive dust monitoring around coal and limestone stockpiles. (3.1.2), (3.2.1)

4.2.8 OPERATIONAL REQUIREMENT

RECOMMENDATION 8

It is recommended that (i) the emergency coal stockpile be compacted and sealed with a latex or other approved sealant to prevent fugitive dust emissions, and (ii) that the proponent be prepared to install wind screens

around or provide total enclosure for the active coal and limestone stockpiles if fugitive dust emissions are unacceptable. **(3.2.1)**

4.2.9 EFFECTS MONITORING

RECOMMENDATION 9

It is recommended that the Power Corporation prepare an effects monitoring programme that would include (i) ground level concentrations for sulphur dioxide, nitrogen oxides and total suspended particulates; (ii) sulphate deposition and its impact on local farmlands; (iii) concentrations and persistence of chlorine and chlorine compounds in the marine environment; (iv) thermal plume quantifications; (v) effects on the commercial fishery including lobster habitat; (vi) drawndown of the upper and lower morien aquifers as a result of the well field; (vii) groundwater monitoring in the area of the ash management facility; and (viii) impacts of emissions and discharges on the bird populations on Bird Islands. **(3.2.3), (3.2.4), (3.3.4), (3.3.5), (3.3.9), (3.4.1), (3.5.1), (3.9.1)**

4.2.10 CONTINGENCY PLANS

RECOMMENDATION 10

It is recommended that the Corporation develop contingency plans to address (i) loss of domestic and other water supplies in the surrounding community, (ii) the development of a leachate plume originating at the ash management facility or the fuel and sorbent stockpile areas; and (iii) the identification and recovery of any archaeological artifacts and/or paleontological resources encountered during the site preparation and construction phases of the project. **(3.4.3), (3.5.1), (3.10)**

4.2.11 OTHER

RECOMMENDATION 11

It is recommended that the proponent (i) provide a detailed explanation of the process which will be used to design and develop the ash management facility; and (ii) prepare and submit a schedule of inspection and

maintenance, designed to minimize sewage treatment plant downtime, including an inventory of parts and components frequently requiring replacement. (3.5.2), (3.6.1)